

What is claimed is:

1. A radio reception apparatus comprising:
correlation calculating means for performing
correlation calculation on a reception signal with a
5 predetermined calculation length using a known signal;
delay detecting means for performing delay
detection using the signal after said correlation
calculation; and

detecting means for detecting synchronization
10 timing from the delay detection output.

2. The radio reception apparatus according to claim
1, wherein said correlation calculation acquires a
signal with a desired signal component included in the
reception signal increased and performs delay detection
15 using the signal.

3. The radio reception apparatus according to claim
1, further comprising selecting means for selecting one
known signal from a plurality of known signals.

4. The radio reception apparatus according to claim
20 3, wherein the detecting means identifies said known
signal series when a synchronization timing is detected.

5. The radio reception apparatus according to claim
1, further comprising frequency estimating means for
detecting a frequency component included in the signal
25 after delay detection.

6. The radio reception apparatus according to claim
5, further comprising first calculation length
controlling means for controlling said calculation

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length based on the frequency component estimated by the frequency estimating means.

7. The radio reception apparatus according to claim 6, wherein the first calculation length controlling means increases the calculation length as the frequency estimated by said frequency estimating means approximates to a target frequency.

8. The radio reception apparatus according to claim 6, wherein the first calculation length controlling means controls the calculation length according to the number of times synchronization timing is detected.

9. The radio reception apparatus according to claim 5, wherein the frequency estimating means detects a frequency shift.

10. The radio reception apparatus according to claim 1, further comprising power calculating means for calculating the output power after delay detection.

11. The radio reception apparatus according to claim 1, further comprising:

reception situation estimating means for estimating the reception situation from the reception signal; and

second calculation length controlling means for controlling said calculation length according to the reception situation estimated by said reception situation estimating means.

12. The radio reception apparatus according to claim 11, wherein the second calculation length

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controlling means increases the calculation length when the reception situation is bad and decreases the calculation length when the reception situation is good.

13. The radio reception apparatus according to
5 claim 11, wherein the second calculation length
controlling means controls the calculation length
according to the number of times the synchronization
timing is detected.

14. A synchronization timing detection method
10 comprising:

a correlation calculating step of performing
correlation calculation on a reception signal with a
predetermined calculation length using a known signal;

a delay detecting step of performing delay
15 detection using the signal after said correlation
calculation; and

a detecting step of detecting synchronization
timing from the delay detection output.

15. The synchronization timing detection method
20 according to claim 14, wherein said correlation
calculating step acquires a signal with a desired signal
component included in the reception signal increased and
performs delay detection using the signal.

16. The synchronization timing detection method
25 according to claim 14, further comprising a selecting
step of selecting one known signal from a plurality of
known signals.

17. The synchronization timing detection method

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according to claim 14, further comprising a frequency estimating step of detecting a frequency component included in the signal after the delay detection.

18. The synchronization timing detection method
5 according to claim 17, further comprising a first calculation length controlling step of controlling said calculation length based on the frequency component estimated by the frequency estimation step.

19. The synchronization timing detection method
10 according to claim 14, further comprising:

a reception situation estimating step of estimating the reception situation from the reception signal; and

a second calculation length controlling step of
15 controlling said calculation length according to the reception situation estimated by said reception situation estimating step.